USER GUIDE

Doortello Business

Doorphone with analogue
telephone line interface and
up to 127 chime bottons and
1 dial pad
FW T2.05W2.04 or better

⁂ROCOM

Contents

Introduction

The Doortello Business is a door phone system for integration with new or existing telephone systems. The door phone has a analogue telephone line interface a can be connected to any type of transmission technology, as far as a specific adapter is available, like ISDN, VoIP, GSM, DECT and similar systems. Pressing a chime button, or dialling a number using the key pad, a programmed telephone number, or the dialled digits, are sent as DTMF tones to the telephone line. Up to 127 chime buttons can be connected to the system. Each of them can have a 16 digits long telephone number stored in the system. When the dialled extension will answer the call a speech connection is established. A smart tone detection program ensures that the connection is surely terminated recognizing a busy tone, or in case of a missing answer after a specified number of ring back tones.

The door phone is approved for the use within the European community as defined by the 98/482/EU (TBR 21) on the analogue telephone network. This is not a warranty that the device can work with all European telephone networks, which might slightly differ from the standard.

If you notice functional problems with your telephone line please get in contact with your local dealer.

| Doortello Business doorphone | PABX | Analogue or digital telephone |
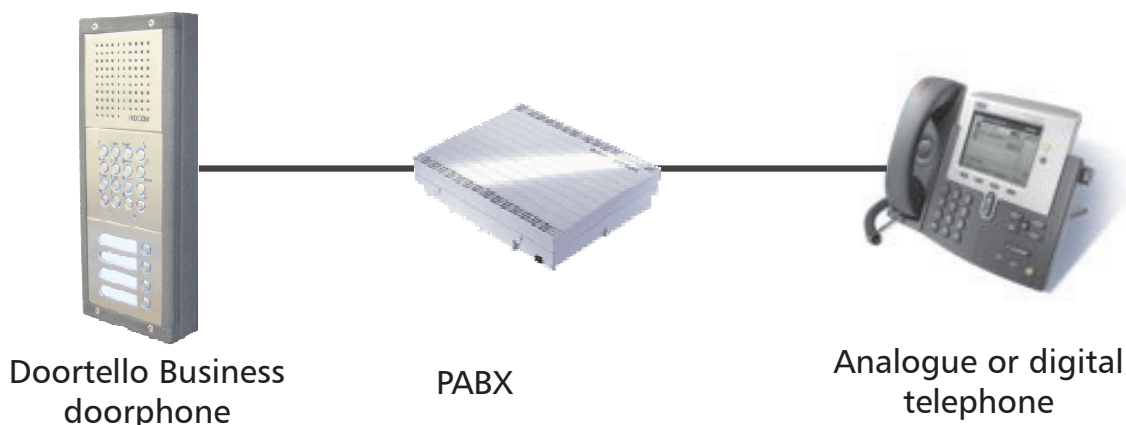
Doortello Business. Functional overview.

Description

The door phone is available as ES version behind a stainless steel plate with holes for the loudspeaker and the microphone and as BG version as compact unit for installation inside existing cases like door stations, letter boxes and similar systems. The construction of the unit ensures an easy installation. The loudspeaker, the microphone and the controller and all connectors are placed inside a very small case. This will ensure not only a fast and easy installation, but also a high level of reliability.

The Doortello Business ES version has been design to be installed together with his own modular stainless steel door station program. A large selection of different modules like chime buttons, dial pad, information and frames with boxes for the flush or surface mounting, as well as pedestals, are available to realise many different installation solutions. The BG version allows the installation on the back

of an existing speakerphone grid, i.e. inside existing old door stations, customer designed installations, parking house information systems, etc. Using the plastic adapter frames it is also possible to the install the ES modules in existing letter boxes or pedestals.

The door phone needs to be connected to a analogue telephone line using two wires, further the optional external power supply can be use to power the illumination and the heating element of the unit. The modules of the door station are connected together using the internal DB bus. Fir the BG version an external chime button encoding unit is available to connect them to the DB bus. Up to 127 single chime button and a dial pad with 16 buttons (12 for the dial and 4 free
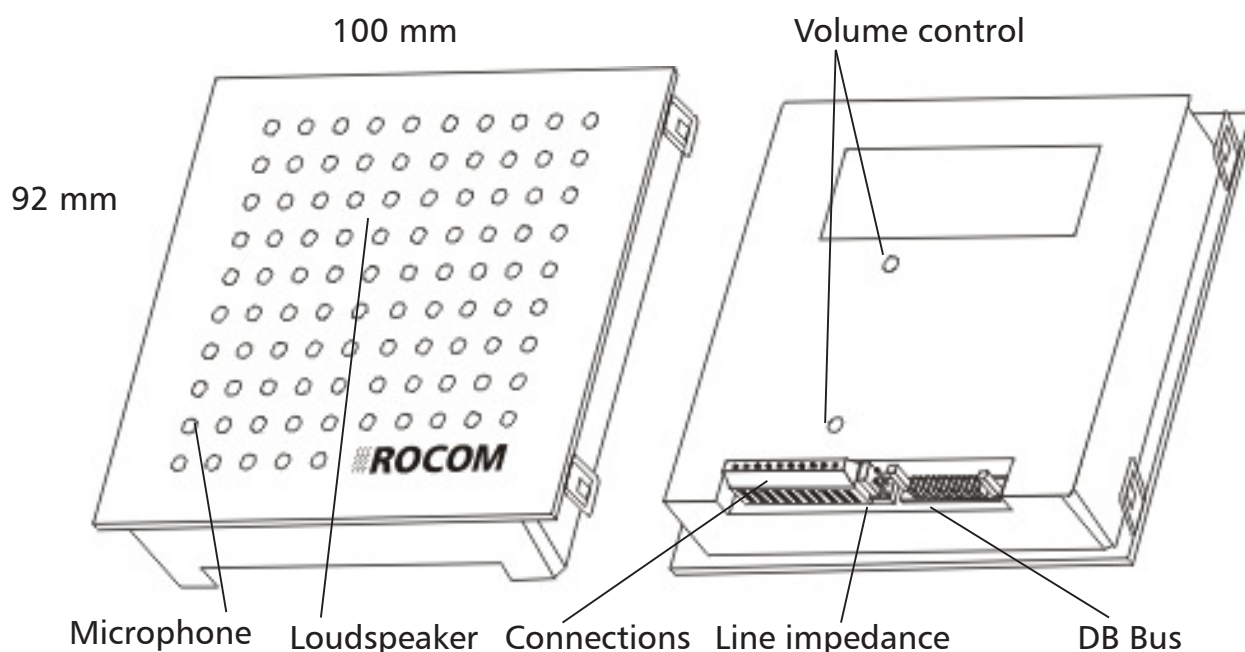
ES speakerphone. Front and back view.

programmable functional buttons) can be connected to the Doortello Business door phone using the DB bus.

The unit has also two integrated dry driver contacts to command door openers or other applications, like video cameras. A serial RS 485 interface for the connection of peripheral expansion units completes the connection block of the device.

The programming of the telephone numbers and all other features are done using a DTMF dial. A complete description of the programming can be found in the chapter *Programming.*

Package content

The content of the package for the DB 01 Doortello Business BG behind panel door phone (Part no. 20-2000-0001) includes:
- Door phone with box
- Encoding unit for 4 button with flat cable
- This user guide (german/english)
- Multilanguage short user guide
- Multilanguage user guide for the encoding unit
- Return notice and error description
- Small screwdriver

The content of the package for the DB 02 Doortello Business ES door phone (Part no. 20-2000-0005) includes:
- Door phone wit stainless steel panel
- This user guide (german/english)
- Multilanguage short user guide
- Return notice and error description
- Small screwdriver

Features

- Up to 127 chime buttons (dry contacts) can be connected. For each button a 1 to 16 digits long telephone number (1-0,*,#, flash, pause) can be stored.
- Dial pad for the dial of telephone numbers, speed dial codes or access codes with 4 programmable functional buttons
- Speed dial for 100 numbers
- Programming using DTMF code with password function (remote programming)
- Programmable driver contacts activation time (0 to 99 seconds)
- RISC processor controlled state-of-the-art speaker phone
- Speech detection
- Programmable ring back and busy tone detection
- Programmable automatic call answer
- Programmable ringing time from 1 to 99 calls
- Volume adjustment for microphone and loudspeaker
- 2 integrated driver contacts with DTMF dial activation (door opener function)
- Programmable door opener DTMF codes
- Programmable automatic driver contact activation with button pressure
- Integrated heater
- Manual disconnection with DTMF dial
- Programmable automatic disconnection after door opening
- Suppression of DTMF tone input from outside
- Connection to a standard analogue telephone line, two wires
- DTMF dial
- Programmable max. connection time fro 1 to 999 seconds

Installation

Behind panel
installation

Surface mounted
installation with stainless
steel cas and weather
protection

Surface mounted
installation with FLAT
box

Installation as
stand alone
pedestal

Doortello Business. Many way to install the system

Before you start with the installation please read the following indications:

- The Doortello Business ES can, together with his modular door station program, has a IP 55 protection degree and can be installed also outside.
- If you plan an installation in a rainy environment we suggest the use of a weather shelter or a surface mounting box with weather shelter.
- With surface mounted and pedestals installation we suggest always the use of the integrated heating element (12 Vdc external power supply is needed). This is also valid for the BG version.
- If a fluid gets inside the unit disconnect at once the telephone line and the external power supply (if installed).
- The device can only be maintained by instructed specialized technicians.
- Static discharges may damage the device. Please ensure that you are grounded before any activity with the unit.

Security advices

Please read carefully this user guide before you install the unit. Take care about the security advices. Diregarding the warnings may be against existing laws or cause dangerous situations.

Please note!
Think any time during installation at your own safety! Be careful and disconnect the 230 V power supply before connecting the external power supply unit. Before you touch any cable ensure that no voltage is present on the line. Please consider that it can be against safety rules to run low and high power cables in the same duct. An installation of 230 V cable inside the door station is forbidden by law. If you have to drive high power circuits with the internal driver contact of the device you have to use external high power relais (like the 1471, see also the chapter *Options*)

Flush and wall mounted installation

For the flush and wall mounted installation of the device the modular Doortello Business door station has to be used. This program offers you a wide range of different flush and wall mounting cases, as well as different pedestals. The Doortello Business ES device is installed as one of the modules of the modular door station. The single modules are conneted together using the delivered flat cable. More details about the installation of the Doortello Business modular door station can be found in the documentation delivered with the cases and modules.

Please note!
NEVER install a ES version behind an existing panel. This might cause heavy disturbances to the speaker phone making his use impossible. For behind panel installation use only the BG version!

Behind panel installation

The requisite for the installation of the Doortello Business BG version is that there is already an exiting plate with a speaker grid available. The Doortello Business BG has been especially developed for this type of use. As the form and technical details of the plat with the speaker grid may differ from side to side we don't have the possibility to provide here precise installation instructions. It is very important that the microphone is placed precisely in correspondence with a hole to the outside. If necessary a hole has to be drilled. For a better speech quality of the speaker phone the unit has installed flush fitted with the plate.
Using the available plastic frame adapters also the ES module can be used for installation in letter boxes, pedestals and similar installations.

Attention! The microphone must be coincide exactly with a hole in the plate.
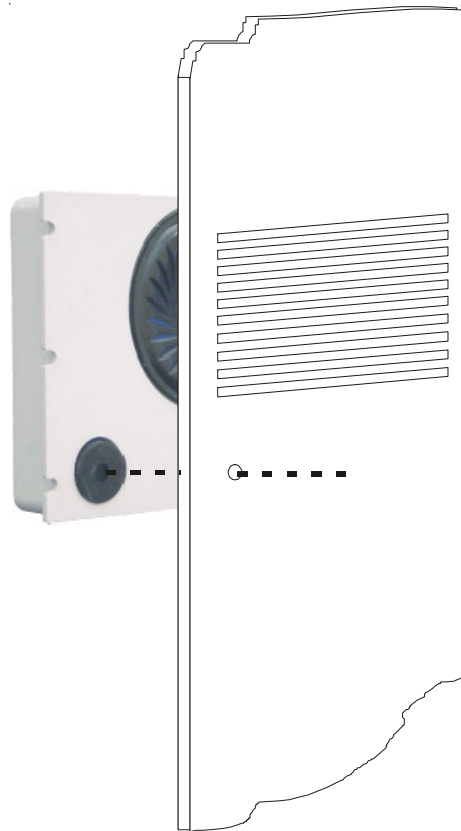
Doortello Business. Behind panel installation
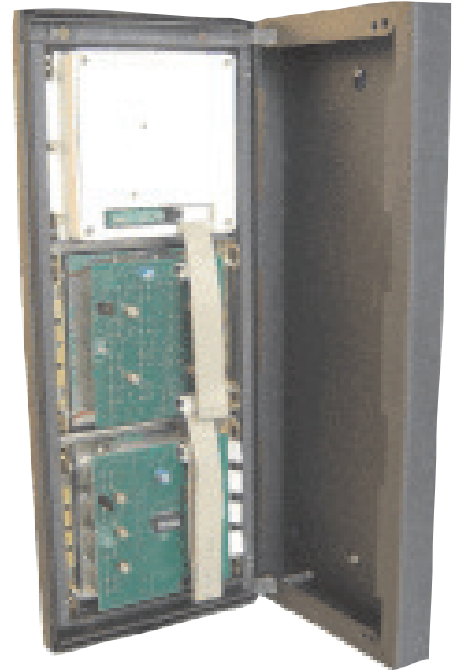
Cabling of the chime buttons

As already mentioned the chime button module are connected with the Doortello Business ES unit using the flat cable of the DB bus. Up to 32 chime button modules can be connected. please consider that the last module can have only 3 button. This mean that you can have up to 127 chime buttons connected to the system.

Each button has a decimal address form 001 to 127. This addresses are allocated using the DIP swith that you can find on the chime button modules. Each DIP switch selection allocates 4 fixed addresses for each module. I.e. the frist modul will have the addresses from 001 to 004, the second one from 005 to 008, and so on. If the module you are addressing is not fully equipped with all four buttons, i.e. if you are using modules with 1, 2 or 3 buttons only, you will loose the address which are not used. I.e. if the first module has only two buttons only the addresses 003 and 004 are used. The addresses 001 and 002 are lost. If the second module has only 3 buttons only the addresses 006, 007 and 008 are used, the address 005 is lost.

The dial pad module is recognized automatically by the device and for the 4 programmable button, which can be find of the module, for fixed addresses will be assigned: 128 („handset"), 129 („key"), 130 („name") und 131 („lamp").
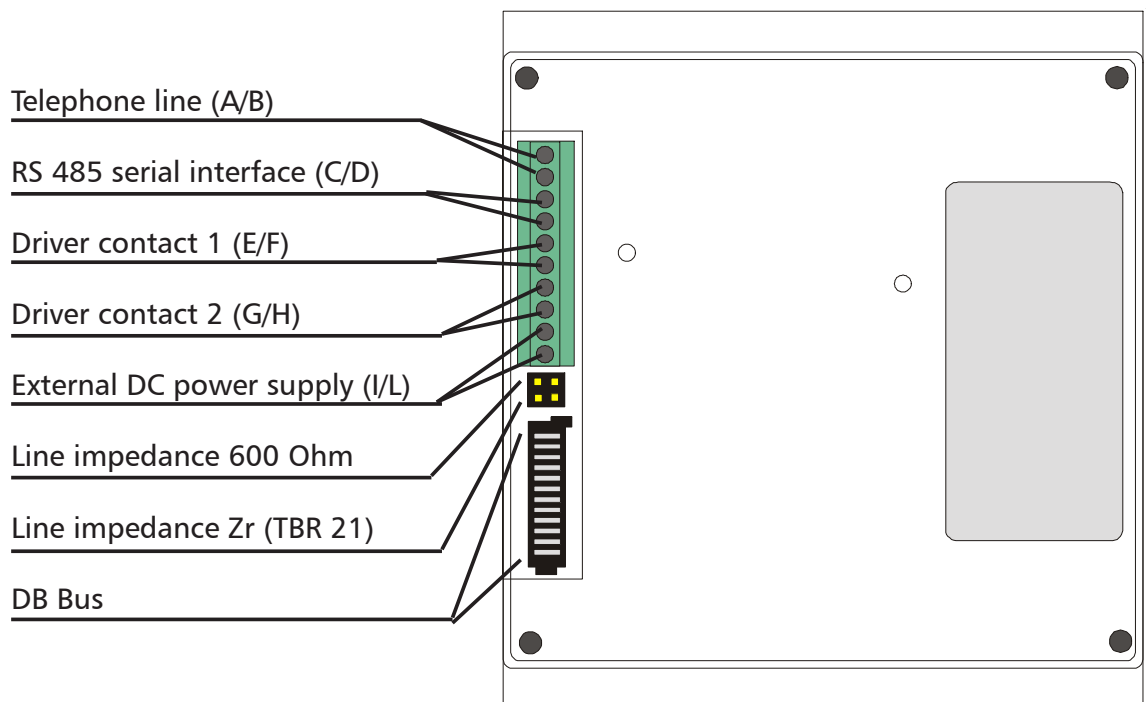
Passive modules, like information, spare or camera modules don't use any address. For the Doortello Business BG the button encoding module DB 15 is used. Each module can connect up to 4 dry contact buttons. Using the DB bus flat cable all encoding modules are then connected to the Doortello Business BG unit. As described above with the chime button modules also the encoding units are addressed using a DIP switch, where at each button a decimal address form 001 to 127 will be assigned. Up to 32 encoding modules can be used, where the last one can manage only a maximum of three buttons. Limitation of the address use are the same as described above if not all buttons are used on one encoding module.

Further information about chime button, dial pad and encoding modules can be find on the specific user guide of that products.

Chime buttons modules with DB bis cabling

Further connectors

Telephone line (A/B)

RS 485 serial interface (C/D)

Driver contact 1 (E/F)

Driver contact 2 (G/H)

External DC power supply (I/L)

Line impedance 600 Ohm

Line impedance Zr (TBR 21)

DB Bus

Anschlüsse Doortello Business Grundsystem

Telephone line (A/B)

The unit must be connected to an analogue telephone line to work. The telephone line can be a public line, an extension line or the input of a specific FXO adapter for special networks like GSM, DECT or VoIP. Please take care that the open line voltage should not be below 20 Vdc and it should be able to delivery a minimum of 18 mA during the seizure. For the best speaker phone functionality select also the correct line impedance (read also the chapter *Line impedance*).

Please note!
The Doortello Business door phone has a „fine" over voltage protection. This is useful only if more over voltage protection circuits are installed. If the unit is installed outside a building we suggest the installation of a over voltage protector with ground connection on the specific telephone line.

RS 485 serial interface (C/D)

This interface is used for a communication with external devices, like the DB RU 1 unit. This unit has two more relays contacts which can be used instead of the integrated ones to drive special applications (like TTL signals) or for the remote control of the door opener if enhanced security is required. The RS 485 interface can address up to 255 peripheral units.

Driver contact 1 and 2 (E/F; G/H)

The driver contacts can be used to open doors or other functions like the activation of a video camera. As default the first driver contact is activated pressing the DTMF digit „7" during the conversation, and the second driver contact with the digit „8". Other ways to work are possible, like the automatic activation with line seizure or after pressing a specific button. Also the activation codes can be programmed, i.e. to make the door opening dependent from the input of a code from the telephone. Read also the chapter *Programming* for more information.

Please note!
The two driver contacts integrated in the Doortello Business door phone are dry but not galvanic contacts as they are electronic circuits. That means that diver voltage below 6 V may not work. In this case (i.e. TTL signals) you need to use external relays, like the universal relay 1471 or DB RU 1 device (see also *Options* for more information).

External DC power supply (I/L)

The optional external power supply is used to power the door phone and to activate some optional features. The external power supply is needed to activate the following functions:
- Enhanced amplifier for noisy environments;
- Integrated heating element with temperature control;
- Illumination of the door station modules over the DB bus (max. 12 modules);
- Future enhanced features like speech announcements and display (not available yet).

The external DC power supply must have a voltage range form 8 to max. 12 Vdc stabilized. We suggest you the use of the our power supply unit PRS 231S or the DB RU 1 unit (see also chapter *Options*).
The external power supply is also used to power the LED illumination of the door station modules. Using the DC input on the door phone only 12 modules can be powered over the DB bus. If more modules are installed a separate power supply has to be used. In this case the door station modules have the jumper which is used to separate the power line between the modules. For the power supply of the modules you can find a screw connector on each unit. For more information please read the specific documentation of the single modules.

Please note!
With installations at sites with extreme weather conditions, as well with wall mounted and pedestals installations we suggest in any case the power supply of the door phone to activate the integrated heater element.

Please note!
The external power supply MUST be stabilized. The voltage MUST NOT exceed 12 Vdc. Higher voltage will destroy the unit!

Please note!
If you are installing more door phone on the same site a separate power supply unit has to be used for each door phone. Connecting more door phone with the same power supply unit may damage the devices and will short circuit the telephone lines!

Please note!
The door station modules can be powered also with 12 Vac. Please ensure that the voltage used does not exceed 13,8 Vpp. A higher voltage may destroy the modules. If using an external voltage to power the modules PLEASE ENSURE THAT THE SEPARATION JUMPER IS OFF ON THE FIRST MODULE. If not applying the external voltage to the modules WILL DESTROY the door phone!

Power supply over the telephone line

The Doortello Business door phone has been designed to work as well using the telephone line only. In this case the device is powered by the telephone line itself. Using the telephone line only the door opener and the modules LED illumination are to powered separately. In this case only a AC power supply is needed as the module can power the LED also using a transformer only. Please refer to the specific user guides for more information.

Please note!
For specific functions, like the dial of a flash signal, the telephone line has to be interrupted for a short time. To ensure that the processor inside the device are still powered during this time, if only a power supply over the telephone

line is used, a larger capacitor has be installed. This capacitor has to loaded at the first activation of the device. As the processor can not work until this capacitor is loaded the unit will take some time as only the idle current of the telephone line can be used. This is only a few *µ*A and it will take some minutes time to load the capacitor. If you want to shorten this time you have to call the device. Please read the chapter *First activation* for more details. Please take care that some feature may differ if the unit is externally powered or not.

Line impedance

For a better sound quality of the speaker phone you need a perfect line impedance adaptation. The line impedance jumpers is therefore available to select the impedance of the telephone line you are using. You can choice between 600 Ohm (default) and Zr line impedance. Which type of line impedance you can normally be read in the technical documentation of the telephone switch or adapter you are using. Normally small switches and adapter have 600 Ohm, large switches and public telephone line (in Europe) have Zr. IF you are not sure which lien impedance you have just use the selection which gives you the best results.

DB Bus

The DB bus connectors is used to connect the different modules of the door station system to the door phone using a flat cable.

Automatic heating element

If the device is externally powered an automatic integrated heating element will be activated. This is used to ensure a correct functionality with outside temperature down to - 20°C. The heating element is activated automatically at +10°C and will be deactivated at +20°C.

Volume adjustment

On the Doortello Business you can adjust the volume of the microphone and the loudspeaker. If the volume of the loudspeaker is not high enough you can enhance this by powering the unit (read also the chapter *External DC power supply* for more information).

Please note!
Without an external power supply it can happen that with very high loudspeaker volume and noises (i.e. feed back noise) the telephone line current not enough is to support the module. In this case the device will automatically reduce the loudspeaker volume.

Loudspeaker volume

Microphone volume

Doortello Business volume adjustment
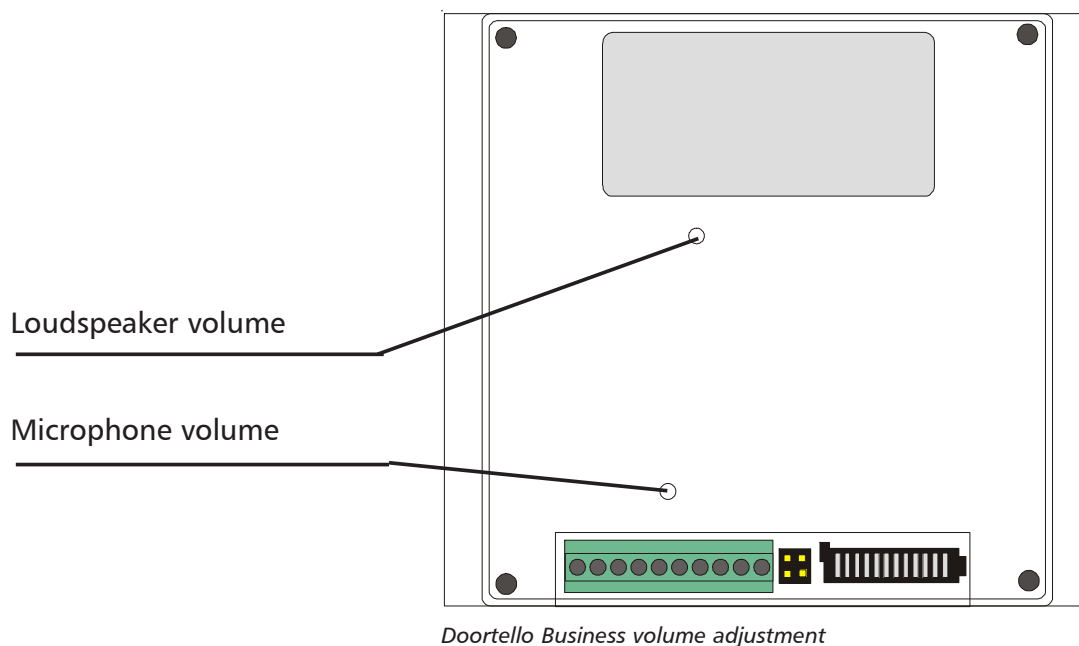
First activation

Install and configure the door station as you wish. Ensure that you follow the instructions of the single modules for a correct installation. Connect the module together with the delivered flat cable, if needed. Select the correct addressing of the module as described. After this you can connect the door phone with the telephone line and the external power supply.

External power supply

- Connect FIRST the telephone line and then the external power supply.

Please note!
The external power supply voltage MUST NOT BE HIGHER THEN 12 Vdc! Check the voltage using a voltmeter! A higher voltage may seriously damage the device voiding you warranty! We suggest the use of out PRS 231S power supply unit.

Please note!
You need a separate power supply unit for each door phone you are going to install!

Please note!
The connector I/L doesn't have a polarity. You can connect +/-as you wish.

- After you switch on the power supply the unit will follow an internal start up procedure. This may take some seconds. If you have a module with LED (like the

key pad module) you can follow the start up procedure sequence as following described:
- Red LED is on: main processor is activated, the telephone line is checked (voltage, noise);
- Red and green LED are on: the RISC processor is activated and will be synchronised with the main;
- Red LED is on: the memory is checked, if no data are stored a default data load is executed, if data are already stored they will be uploaded from the flash to the working memory;
- Both LED are off: the device is now ready to work.

Power from telephone line only

- Connect the analogue telephone line;
- Call the unit;
- After a few calls (between 3 and 10) the unit will answer the call;
- The unit will now go through the initialisation procedure as described above;
- An the end the call will be terminated and you will get a busy tone;
- The device is now ready to work.

Please note!
If the door phone is powered from the telephone line only it can happen that after a power failure or the disconnection of the telephone line that the device will take some minutes before it will be ready again to work. If you want to shorten this time you have to go the above described procedure again. Refer also to the chapter *Power supply over the telephone line* for more details.

Programmation

The entire programmation, like storing the telephone numbers or the selection of the different operating modalities, is done using a telephone with DTMF dial capability.

Please note!
The device has two memories. A RAM and a flash memory. During the programmation the unit will transfer all the data from the flash to RAM memory. At the end of the programmation the data are transferred again back to the flash. This will be done at one step when terminating the programming mode using the digit ⃞3⃞. Pressing this digit you will get a acknowledge tone, but the unit will disconnect the lien and go back to stand by only after some seconds. If during this time the line is interrupted or the power will fail all the data programmed up this point will be lost. If you are doing a larger programmation we suggest to make a data storage from time to time.

Activate the programming mode

If you want to program the Doortello Business you to first activate the programming mode. Before you can program the device it has to be connected to a telephone line and, if required, to a power supply.

After the first power on of the power supply, or connection to the telephone line, the device will follow an initialisation procedure. With this process the RAM memory is deleted and the telephone line checked, read also the chapter *First activation* for more information. During this time the device is not available. If you have a module with LED you can follow the initialisation procedure on the LED. When both LED are off the device is ready to be used.

Call now the unit using a phone with DTMF dial capability. The device will answer the call and sent a short tone. The red LED (if installed) will go on and then the green LED (if installed) on and the red LED (if installed) off when the unit is ready for speech.

Please note!
It may be that the automatic call answer feature has been deactivated on the Doortello Business with a previous programmation.
In this case you will hear a ring back tone but the until will not answer the call. To start the programming mode you have to press during the call one of the chime or functional buttons at the door station. The device will now answer the call and you can follow the programming procedure as described.

The programming mode is activated with the following input:

⨯ # 0 Password (default 1 2 3 4) *OK tone*

Now the programming mode is activated. The red LED (if installed) will go on and the green LED (if installed) off. The green LED (if installed) will flash with every positive detection of a DTMF digit.

To terminate the programming mode dial 3 .

Please note!
If you terminate the call hanging up the handset without dialling the digit

3 **all the data inserted up to this time will be lost!**

Please note!
It may be that the programming mode activation using a password has been deactivated with a previous programmation. Is this case the programming

mode is activated just after the input of the ⨯ # 0 **digits.**

Please note!
The password could has been changed. If you hear a *NOOK tone* you have a wrong password.

Please note!
As soon as the device will answer the call a maximum connection timer will start. This is set as default at a value of 60 seconds. At the end of this time the unit will disconnect the line. All data inserted until this time will be lost. We suggest you to change this time if you plan an extensive programmation.

Please note!

When you terminate the programming mode with the digit 3 **all**

programmed data will be transferred from the RAM to the flash memory. This will take about 30 seconds. During this time the device is not available.

Tones during programmation

During programmation you will hear the following tones:

Answer tone: 1 short tone. Is sent when the call is answered and the unit ready to accept more commands.
OK tone: 3 short tones. The data input or command is correct.
NOOK tone: 6 short tones. The data input or command is not correct, last data input is lost.
Error tone: 9 short tones. There was an error on the device memory. Data could not be stored and are lost.

Default data load

If you have to move the door phone, to change the complete programmation or the unit was programmed wrong you can load the factory default data using the following procedure:

⊛ # 9 *OK tone* # 9 1 2 3 4 *OK tone*

Please take care that the default data load will delete all programmed telephone numbers and values. If you want to delete or change just one telephone number is the default data reload not very useful. Use instead the procedure described in the chapter *Delete telephone number and functional keys*.

Please note!
The above indicated procedure considers that the password has his standard value 1 2 3 4 . **If the password was changed you have to use the new password instead of** 1 2 3 4 .

Please note!
The default data are loaded only after the input of the digit 3 **to terminate the programming mode.**

Please note!
If the password has been lost it is possible the load the default data using a master password. In this case the factory default data a reloaded as well the standard password. Please contact Rocom Energie- und Kommunikations-systeme GmbH for more details.

Chime buttons and functional keys

Each of the 127 chime buttons and the 4 functional keys on the dial pad can be programmed to dial a telephone number with up to 16 digits. Also special functions can be assigned to the buttons, and sometime also special functions together with a telephone number can be programmed.
The single chime buttons have a decimal address from 001 to 127. This address is defined by the DIP switch you can find on the single modules (see also *Cabling of the chime buttons* for more details and the user guides for the chime button modules and the encoder units). The four functional keys on the dial pad have a fixed address: 128 („handset"), 129 („key"), 130 („name") und 131 („lamp").
As digits inside a telephone number you can use all numbers from 1 to 0, as well the special codes * , # and the functions „flash" and pause.

From factory no numbers or functions are programmed for the buttons. Only the functional key 128 („Handset") has the function # # 6 # 1 „Dial pad

activation for DTMF dial" and the 129 („Key") has the function

(#)(#)(6)(#)(3) „Dial pad activation for access code entry" programmed from factory as default.

To program the chime buttons and functional keys follow this procedure:

(✳)(#)(1) *OK tone* {telephone number of function} (✳)(✳) {button address} *OK tone*

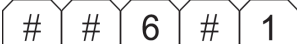As digit for the telephone number (max 16 digit for each telephone number) the following values can be entered:
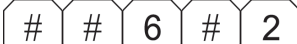
Digits: (1) , (2) , (3) , (4) , (5) , (6) , (7) , (8) , (9) , (0) ;

Special dial functions: (#)(#)(1) , will dial the code (#) (is considered as 1 digit);

(#)(#)(2) , will dial the code (✳) (is considered as 1 digit);

(#)(#)(3) , will make a dial pause of 2 seconds (default value) duration (is considered as 1 digit);

(#)(#)(4) , will send a „Flash" (short line interruption, „Recall" button) of 80 ms (default value) duration (is considered as 1 digit);

Functions: (#)(#)(6)(#)(1) , activates the dial pad for a DTMF dial;

(#)(#)(6)(#)(2) , activates the dial pad for the speed dial entry;

(#)(#)(6)(#)(3) , activates the dial pad for a function entry (i.e. access code entry);

Special functions: (#)(#)(7)(0)(1) , activates the relay 1 after pressing the button;

(#)(#)(7)(0)(2) , activates the relay 2 after pressing the button.

Please note!
A function can be programmed only for button where no telephone number is programmed. After the programmation of a function no more inputs or programming are possible for this button. A new programmation will overwrite the existing data.

Please note!
A special function can be programmed also for button where a telephone number is already programmed. You can i.e. program a button to dial a number and in the same time to activate a relay to command an external bell.

Examples:

n   The chime button 1 must dial the number 13. As your PBX has an automatic trunk selection feature activated you must dial a flash to switch from external to internal dial. To ensure the correct dial after the flash a pause has to be inserted. Programmation:

⊛ # 1 *OK tone* # # 4 # # 3 1 3 ⊛ ⊛ 0 0 1 *OK tone*

This number will use 4 of the 16 available digits.

n   The chime button 4 must dial the number 15 and activate at the same time the relay 2. Programmation:

⊛ # 1 *OK tone* 1 5 ⊛ ⊛ 0 0 2 *OK tone*

⊛ # 1 *OK tone* # # 7 0 2 , ⊛ ⊛ 0 0 2 *OK tone*

This number will use 2 of the 16 available digits.

Delete telephone number and functional keys

Each chime button and the 4 functional keys on the dial pad can be deleted one by one. To delete on button please follow the procedure:

⊛ # 9 *OK tone* # 1 {button address} *OK tone*

Example:

n   You want to delete the chime button 5. Input:

⊛ # 9 *OK tone* # 1 0 0 5 *OK tone*

Please note!
If you want to reprogram a chime or functional button you DON'T have to delete it first. The new programmation will overwrite the existing one.

Speed dial numbers

The dial pad can be use to dial telephone numbers and/or speed dial codes. This function is free programmable (read also *Chime buttons and functional keys programmation*). If needed you can use also both functions programming the functional buttons on the dial pad or chime button modules. If you select the speed dial function you can enter a two digits long code on the dial pad. This code will then dial a up to 16 digits long stored telephone number on the telephone line.

The speed dial codes can be 00 tp 99, this means that you have up to 100 speed dial locations available.
As digits inside a telephone number you can use all numbers from 1 to 0, as well the special codes * , # and the functions „flash" and pause. From factory no numbers are programmed in the speed dial locations.

To program the speed dial numbers follow this procedure:

⬡✳ ⬡# ⬡5 *OK tone* {telephone number} ⬡✳ ⬡✳ {speed dial code} *OK tone*

As digit for the telephone number (max 16 digit for each telephone number) the following values can be entered:

Digits: ⬡1 , ⬡2 , ⬡3 , ⬡4 , ⬡5 , ⬡6 , ⬡7 , ⬡8 , ⬡9 , ⬡0 ;

Special dial functions: ⬡# ⬡# ⬡1 , will dial the code ⬡# (is considered as 1 digit);

⬡# ⬡# ⬡2 , will dial the code ⬡✳ (is considered as 1 digit);
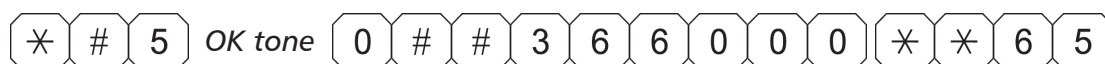
⬡# ⬡# ⬡3 , will make a dial pause of 2 seconds (default value) duration (is considered as 1 digit);

⬡# ⬡# ⬡4 , will send a „Flash" (short line interruption, „Recall" button) of 80 ms (default value) duration (is considered as 1 digit);

Codes: from ⬡0 ⬡0 to ⬡9 ⬡9

Example:

n   The speed dial code 65 must dial the telephone number 66000. As your PBX does not have an automatic trunk selection feature activated you must dial a 0 to size the trunk. To ensure the correct dial after the trunk sizing a pause has to be inserted. Programmation:

⊛ # 5   *OK tone*   0 # # 3 6 6 0 0 0 ⊛ ⊛ 6 5
OK tone

This number will use 7 of the 16 available digits.

Delete speed dial numbers

Each of the 100 speed dial code can be delete one by one. To delete a speed dial number follow this procedure:

⊛ # 9   *OK tone*   # 5   {speed dial code}   *OK tone*

Example:

n   You want to delete the speed dial entry. Input:

⊛ # 9   *OK tone*   # 5 6 5   *OK tone*
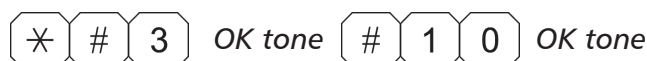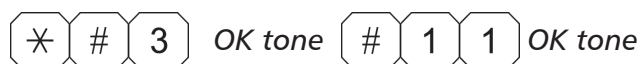
Please note!
If you need to reprogram an existing speed dial code you DON'T need to delete it first. The new entry will overwrite the old one.

Automatic call answer

From factory the Doortello Business can answer the incoming calls automatically. This feature can be deactivated if needed. To deactivate the automatic call answer feature please follow this procedure:

⊛ # 3   *OK tone*   # 1 0   *OK tone*

De reactivate this feature:

⊛ # 3   *OK tone*   # 1 1 *OK tone*

Please note!
If the automatic call answer feature is deactivated no incoming call will be answered. If you want to answer a call (i.e. if you want to program the device) you have to press during the incoming call one of the chime or functional buttons. A complete deactivation is not possible as in this case the unit can be reprogrammed only from factory.

Please note!
The deactivation of the automatic call answer feature can be programmed ONLY if an EXTERNAL POWER SUPPLY is provided. If the device is only line powered this programmation will be USELESS as the device will ALWAYS answer the call.

Loudspeaker status after line seizure

With the Doortello Business it is possible to define which status the loudspeaker has to have after the line seizure. You can define if it has to be on or off. Form factory the loudspeaker is always on, but can modify this, i.e. if you don't want to hear the dial and call progress tones. You can choices between 5 different operating methods:

Loudspeaker always on ⌐1⌐

The loudspeaker is on as soon you press a button. All dial and call progress tone can be heard. The loudspeaker is switched by the speakerphone using the half- or full duplex modality as programmed. (Default)

Loudspeaker always on with manual switch activated ⌐2⌐

The loudspeaker is on as soon you press a button. All dial and call progress tone can be heard. The loudspeaker is switched by the speakerphone using the half- or full duplex modality as programmed. Using the DTMF digit ⌐4⌐ the loudspeaker can be manually activated (manual switched speakerphone). Using the digit ⌐6⌐ the speakerphone is switched back in the programmed automatic modality.

Loudspeaker off until call answer ⌐3⌐

The loudspeaker is off after pressing a button. All dial and call progress tone can not be hearted. As soon as the called party answers the call (speech detection) the loudspeaker is switched on. Afterwards the loudspeaker is switched by the speakerphone using the half- or full duplex modality as programmed.

Loudspeaker off until manual activation ⌐4⌐

The loudspeaker is off after pressing a button. All dial and call progress tone can not be hearted. Dialling the digit ⌐6⌐ after call answer the loudspeaker is manually activated. Afterward using the digit ⌐4⌐ the speakerphone is switched on manually, and with the digit ⌐6⌐ the speakerphone is switched back in the programmed automatic modality.

Loudspeaker always off ⌐0⌐

The loudspeaker is always off. This status is used for testing purposes only.

To change the operating method of the loudspeaker after line seizure please follow this procedure:

(✶)(#)(3) *OK tone* (#)(2) {loudspeaker operating mode} *OK tone*

Example:

n   You want that the loudspeaker is off after pressing a button and switched only after the called party answers the call. Input:

(✶)(#)(3) *OK tone* (#)(2)(3) *OK tone*

Microphone status after line seizure

With the Doortello Business it is possible to define which status the micorphone has to have after the line seizure. You can define if it has to be on or off. Form factory the microphone is always off, but can modify this. You can choices between 5 different operating methods:

Microphone always on (1)

The microphone is on as soon you press a button. The microphone is switched by the speakerphone using the half- or full duplex modality as programmed.

Microphone always on with manual switch activated (2)

The loudspeaker is on as soon you press a button. The microphon is switched by the speakerphone using the half- or full duplex modality as programmed. Using the DTMF digit (5) the microphone can be manually activated (manual switched speakerphone). Using the digit (6) the speakerphone is switched back in the programmed automatic modality.

Microphone off until call answer (3)

The microphone is off after pressing a button. As soon as the called party answers the call (speech detection) the microphone is switched on. Afterwards the microphone is switched by the speakerphone using the half- or full duplex modality as programmed. (Default)

Microphone off until manual activation (4)

The microphone is off after pressing a button. Dialling the digit (6) after call answer the microphone is manually activated. Afterward using the digit (5) the

microphone is switched on manually, and with the digit ⬡6⬡ the speakerphone is switched back in the programmed automatic modality.

<u>Microphone always off</u> ⬡0⬡

The microphone is always off. This status is used for testing purposes only.

To change the operating method of the microphone after line seizure please follow this procedure:

⬡✳⬡ ⬡#⬡ ⬡3⬡ *OK tone* ⬡#⬡ ⬡3⬡ {microphone operating mode} *OK tone*

Example:

n   You want that the microphon on as soon as a button is pressed. Input:

⬡✳⬡ ⬡#⬡ ⬡3⬡ *OK tone* ⬡#⬡ ⬡3⬡ ⬡1⬡ *OK tone*

Please note!
If you switch on the microphone as soon as the line is seized the device may have problems to detect the call progress tone correctly.

Automatic hang up after driver contact activation

The Doortello Business will, from factory, hang up as soon as a driver contact is activated. This function can be deactivated, i.e. if you want to activate more time the driver contact during a conversation. To deactivate the automatic hang up functionality please follow this procedure:

⬡✳⬡ ⬡#⬡ ⬡3⬡ *OK tone* ⬡#⬡ ⬡5⬡ ⬡0⬡ *OK tone*

To switch this feature back on:

⬡✳⬡ ⬡#⬡ ⬡3⬡ *OK Ton* ⬡#⬡ ⬡5⬡ ⬡1⬡ *OK Ton*

Please note!
This feature is applied to ALL driver contacts

Speakerphone operational mode

The Doortello Business has a microprocessor controlled speakerphone. This enables the use of different operational modes. As default the half duplex mode is enabled. In this case the microphone is active until a speech is detected on the telephone line.

If needed a full duplex mode can be programmed. In this case the microphone and the loudspeaker are activated all the time. To enable the full duplex modality please follow this procedure:

(✳)(#)(3) *OK tone* (#)(6)(0) *OK tone*

If you want to switch back to half duplex mode

(✳)(#)(3) *OK tone* (#)(6)(1) *OK tone*

Please note!
In the full duplex modality it might be not possible to reach the maximum possible volume due to the feedback noise which can be generated. A higher volume can be achieved if you extract the microphone from its casing. This is available only in the BG version (DB 01). To extract the microphone you have to open the case, remove the insulating foam over the microphone allocation on the front side and extract carefully the microphone complete with his rubber holder. Install then the microphone as far as possible from the DB case. Ensure that the microphone has still an appropriate hole and that it is flush mounted with the front plate. We suggest the use of the full duplex speakerphone only with external installation and quite environments.

Maximum number of digits input from dial pad

As default it is possible to input up to 32 digits using the dial pad. After the maximum number of digit input is reached the dial pad is switched off and no more input is possible. These maximum number of digit input can be limited. This is useful for two reasons: a) you can restrict the dial of external telephone numbers and b) the device can detect with a fixed telephone number length (i.e. with PBX you have normally 2, 3, 4, or max. 5 digits long numbers) much faster the dial end and switch to the tone detection. To program the maximum digit input please use the following procedure:

(✳)(#)(3) *OK tone* (#)(7) {Max. number of digits} *OK tone*

Possible values are from (0)(1) to (3)(2).

Please note!
The input on the dial pad is also time controlled. As default you have to press a key within 5 seconds from line seizure or after pressing the previous key. If this is not done the until will witch to tone detection and the dial pad is deactivated (read also *Dial pad input time* for more information).

Please note!
Some telephone adapters, like for GSM or VoIP integrations, need the input of the digit #️ **to signal the dial end. This digit can also be dialled using the Doortello Business and is also recognized as dial end by this device. If you then press the digit** #️ **this will be dialled on the line and afterwards the dial pad will be deactivated.**

Password

To activate the programming mode you have to enter a password. As default the password is 1️ 2️ 3️ 4️. It is possible to change this value or to deactivate the password input request. To modify the password please follow this procedure:

✳️ #️ 4️ *OK tone* #️ 1️ {new password} ✳️ ✳️ {new password} *OK tone*

Values between 0️ 0️ 0️ 0️ and 9️ 9️ 9️ 9️ can be programmed.

To enter the programming mode without the need of a password please follow this procedure:

✳️ #️ 4️ *OK tone* #️ 1️ 0️ 0️ 0️ 0️ ✳️ ✳️ 0️ 0️ 0️ 0️ *OK tone*

Example:

n You want to change the password to the value "5678" . Input:

✳️ #️ 4️ *OK tone* #️ 1️ 5️ 6️ 7️ 8️ ✳️ ✳️ 5️ 6️ 7️ 8️ *OK tone*

Please note!
If you lose the password it is possible to upload the factory default data using a master password. Please contact your dealer for more details about this procedure.

Access codes

Using the dial pad you can also input a code to activate the driver contacts. In this case one of the functional keys has to be programmed with the code

⬡#⬡ ⬡#⬡ ⬡6⬡ ⬡#⬡ ⬡3⬡ ("function"). As default the button 129 ("key") is programmed with this code. For every driver contact up to 4 different codes with 1 to 6 digits can be programmed. As default no codes are programmed. To program the access codes please follow this procedure:

⬡✱⬡ ⬡#⬡ ⬡4⬡ *OK tone* ⬡#⬡ ⬡2⬡ {code} ⬡✱⬡ ⬡✱⬡ {code no.} {driver contact no.} *OK tone*

Following value are valid:

Code: from ⬡0⬡ (code is deleted) to ⬡9⬡⬡9⬡⬡9⬡⬡9⬡⬡9⬡⬡9⬡. The code can be 1 to 6 digits long.

Code no.: from ⬡1⬡ to ⬡4⬡.

Driver contact no.: ⬡0⬡⬡1⬡ (driver contact 1) or ⬡0⬡⬡2⬡ (driver contact 2).

Example:

∩ You want to program the access codes "123456" and "78" to activate the driver contact 2. Input:

⬡✱⬡ ⬡#⬡ ⬡4⬡ *OK tone* ⬡#⬡ ⬡2⬡ ⬡1⬡ ⬡2⬡ ⬡3⬡ ⬡4⬡ ⬡5⬡ ⬡6⬡ ⬡✱⬡ ⬡✱⬡ ⬡1⬡ ⬡0⬡ ⬡2⬡ *OK tone*

⬡✱⬡ ⬡#⬡ ⬡4⬡ *OK tone* ⬡#⬡ ⬡2⬡ ⬡7⬡ ⬡8⬡ ⬡✱⬡ ⬡✱⬡ ⬡2⬡ ⬡0⬡ ⬡2⬡ *OK tone*

If you want to delete a code program the value ⬡0⬡ instead of a code.

Example:

∩ You want to delete the second code you have programmed as above. Input:

⬡✱⬡ ⬡#⬡ ⬡4⬡ *OK tone* ⬡#⬡ ⬡2⬡ ⬡0⬡ ⬡✱⬡ ⬡✱⬡ ⬡2⬡ ⬡0⬡ ⬡2⬡ *OK tone*

Please note!
The code are to be all different. You can't program for both driver contacts the same code. If you try to program a code which already exists the device will answer with a *NOOK* tone.

Driver contacts activation codes

The two driver contact can be activated with the DTMF digits ⌗7⌗ and ⌗8⌗ during a conversation. This two codes can be changed if needed. To change a driver contact activation code follow this procedure:

⌗*⌗⌗#⌗⌗4⌗ *OK tone* ⌗#⌗⌗3⌗ {activation code} ⌗*⌗⌗*⌗ {driver contact no.} *OK tone*

As activation code the values from ⌗7⌗ to ⌗9⌗⌗9⌗⌗9⌗⌗9⌗⌗9⌗⌗9⌗ can be programmed. If you program the value ⌗0⌗ the driver contact will be deactivated.

As driver contact no. the value ⌗0⌗⌗1⌗ (driver contact 1) and ⌗0⌗⌗2⌗ (driver contact 2) can be used.

Example:

n   You want to program that the driver contact 2 should be activated using the code "702". Input:

⌗*⌗⌗#⌗⌗4⌗ *OK tone* ⌗#⌗⌗3⌗⌗7⌗⌗0⌗⌗2⌗⌗*⌗⌗*⌗⌗0⌗⌗2⌗ *OK tone*

Please note!
The device will verify if the code you are programming is not already used. If you will get a *NOOK* tone after the new code input, this may be already used.

You have then to use another code. Only code starting with the digits ⌗7⌗,

⌗8⌗ and ⌗9⌗ can be used. If you are using codes with only one digit no other code with more digits can be programmed using the same starting digit (i.e. you can use "71" and "72", but not "7" and "71"). If you want to program a new code as described in the example you have then first to delete the existing code "7" for the driver contact 1, or modify it to another value (i.e. "701").

Maximum line seizure time

The Doortello Business speakerphone has a timer to control the maximum line seizure time. This timer is activated a soon as the line is seized and will terminate the connection when the programmed time is counted down. As default this timer is set to 60 s. This can be changed or deactivated. To modify the maximum line seizure time please follow this procedure:

⌗*⌗⌗#⌗⌗7⌗ *OK tone* ⌗#⌗⌗1⌗ {max. seizure time in s} *OK tone*

Value between ⬡0 ⬡3 ⬡0 and ⬡9 ⬡9 ⬡9 can be selected. With the value ⬡0 ⬡0 ⬡0 the timer is deactivated.

Example:

ⁿ You want to enhance the max. seizure time to 2 minutes. Input:

⬡✳ ⬡# ⬡7 *OK tone* ⬡# ⬡1 ⬡1 ⬡2 ⬡0 *OK tone*

Please note!
This timer is a security feature. If the connection (i.e. using VoIP) doesn't send a busy tone after the called party hangs up the connection termination is ensured only by this timer. This security will be lost if you deactivate this feature. If you have connection error it can happen that the device will be blocked on the line. In this case you need to separate the telephone line and the power supply to reset the device.

Please note!
Connection time below 30 seconds will not be accepted as then a reprogramming of the device is no more possible.

Dial pause time

It is possible to program using the code ⬡# ⬡# ⬡3 a dial pause within the telephone numbers programmed for the chime button and speed dial codes. This time as a default value of 2 seconds, but can be changed using the following procedure:

⬡✳ ⬡# ⬡7 *OK tone* ⬡# ⬡2 {dial pause time in s} *OK tone*

Values from ⬡1 to ⬡9 can be used. The input of the value ⬡0 will deactivate the dial pause feature.

Example:

ⁿ You want to change the dial pasue to 5 seconds. Input:

⬡✳ ⬡# ⬡7 *OK tone* ⬡# ⬡2 ⬡5 *OK tone*

Interdigit dial pause

The Doortello Business will dial the programmed telephone numbers using an interdigit dial pause. This has a value of 150 ms as default. It is possible to change this value following this procedure:

⬡✳ ⬡# ⬡7 *OK tone* ⬡# ⬡3 {interdigit pause time in ms} *OK tone*

You can use values between ⬡1 ⬡0 ⬡0 and ⬡9 ⬡9 ⬡9.

Example:

n   You want to change the interdigit dial pause to 300 ms. Input:

⬡✳ ⬡# ⬡7 *OK tone* ⬡# ⬡3 ⬡3 ⬡0 ⬡0 *OK tone*

Please note!
You need to change this value only if you are experiencing problems with the dial, i.e. wrong dialling.

Driver contacts activation time

The driver contacts can be activated for a programmed time. As default the activation time for all contacts is set to 5 seconds. Also the contacts can be programmed to be automatically activated for all the duration of the conversation. To modify the activation time of the driver contact please follow this procedure:

⬡✳ ⬡# ⬡7 *OK tone* ⬡# ⬡4 {Activation time in s} ⬡✳ ⬡✳ {Driver contact no.}
OK tone

Values from ⬡0 ⬡1 to ⬡9 ⬡8 can be programmed. The value ⬡9 ⬡9 will enable the automatic activation of the contact for all the line seizure duration.

As driver contact no. the values ⬡0 ⬡1 (contact 1) and ⬡0 ⬡2 (contact 2) can be used.

Example:

n   You want to program the contact 2 to be activated for all the line seizure duration (i.e. to switch on a video camera). Input:

⧖ ⏻ ⑦ *OK tone* ⏻ ④ ⑨ ⑨ *OK tone* ⧖ ⧖ ⓪ ②

Keypad activation time

If you press the dial, code or functional button on the keypad the device will size the line and wait for more inputs. If no more buttons are pressed the connection will be terminated after this programmed timeout. Every time you press a button on the keypad this timer will be restarted until an input is completed. The keypad activation time is set as default with a value of 5 seconds. This time can be shortened to 1 second or enhanced to a max. time of 99 seconds. To change the keypad activation timer please follow this procedure:

⧖ ⏻ ⑦ *OK tone* ⏻ ⑤ {keypad activation time in s} *OK tone*

You can program a value between ⓪ ① and ⑨ ⑨.

Example:

n You want to extend the keypad activation time to 30 seconds. Input:

⧖ ⏻ ⑦ *OK tone* ⏻ ⑤ ③ ⓪ *OK tone*

Keypad blocking time

When you use the keypad as an access control you can activated, if needed, a blocking timer. If the user will enter a wrong code the keypad will be blocked for any other input for the duration of this time and then the device will terminate the connection and size the lien again to enable the user to input a new code. It is no more necessary to press the access control button. As default the feature is deactivated. To program the keypad blocking timer please follow this procedure:

⧖ ⏻ ⑦ *OK tone* ⏻ ⑥ {keypad blocking time in s} *OK tone*

You can insert values between ⓪ ⓪ and ⑨ ⑨. The value ⓪ ⓪ will deactivate this timer.

Example:

n   You want to program a blocking time of 10 seconds. Input:

⊛ # 7 *OK tone* # 6 1 0 *OK tone*

Please note!
The connection termination and automatic new seizure of the line after the blocking timeout is a feature which is available ONLY with EXTERNAL POWER SUPPLY. If the device is powered only by the telephone line the unit will just terminate the connection after the time out. In this case you need to press again the access control button to insert a new code.

Blocking time increase

If the keypad is used as a access control device you can automatically increase the blocking time of the keypad after a wrong code input by a here programmed value. This is used to prevent fraudulent use of the access control keypad. If this feature is activated with any wrong access code input the blocking time will be increased by „blocking time" + („blocking time increase" x „number of wrong inputs"). The blocking time will be ret to zero only by dialling a right access code. As default this feature is deactivated. The blocking time increase can have a value between 00 (deactivate) and 99 seconds. To program the blocking time increase please follow this procedure:

⊛ # 7 *OK tone* # 7 {Blocking time increase in s} *OK tone*

You can program a value between 0 0 and 9 9 . With the value

0 0 the blocking time increase feature is deactivated.

Example:

n   You want that the blocking time of the keypad will increase by 10 s with every wrong access code input. Input:

⊛ # 7 *OK tone* # 7 1 0 *OK tone*

Now, if the blocking time (see also *Key pad blocking time*) was set i.e. at a value of 10 s after the first attempt to input a wrong code the keypad will be blocked for 10 s, after the second attempt for 20s, after the third attempt for 30 s and so on.

Please note!
If you have programmed the blocking time increase feature but you don't have defined the maximum number of attempts (see also *Maximum number of*

attempts) **the blocking time could be increase to a theoretical unlimited value. Of course this time will be then limited by the maximum line seizure time (see also *Maximum line seizure time*). We suggest you to find a value of the maximum blocking time which should be below the maximum line seizure time programmed.**

Maximum number of attempts

If you use the keypad as a access control device you can limit the number of attempts to input a wrong code. This feature is only useful if you are using also the blocking time increase function. The maximum number of attempt will then limit the maximum blocking time to a specific value. Also it is possible that if the maximum number of attempt is reached a programmed telephone number (speed dial code 99, see also *Speed call numbers*) is called automatically. As default this feature is deactivated. The maximum number of attempt can be between 00 (deactivated) and 99. To program the maximum number of attempt follow this procedure:

⚹ # 7 *OK tone* # 8 {maximum number of attempts} ⚹ ⚹ { 0

without or 1 with automatic telephone call} *OK tone*

Values between 0 0 and 9 9 can be programmed. The value 0 0 will deactivate this function.

Example:

n You want that max. 3 attempts with wrong access codes can be made. Afterward the unit will call automatically a programmed telephone number. Input:

⚹ # 7 *OK tone* # 8 0 3 ⚹ ⚹ 1 *OK tone*

The telephone number must be programmed with the speed dial code 9 9 (see also *Speed call numbers*)

Please note!
The automatic line disconnection and new seizure with dial of a programmed telephone number will work ONLY if the device has an EXTERNAL POWER SUPPLY. If the device is powered only BY THE TELEPHONE LINE the feature is NOT AVAILABLE.

Flash time

You can insert a flash signal in the telephone number you store for the chime buttons otr speed dial numbers. The flsh signal is set programming the code ⬡#⬡ ⬡#⬡ ⬡4⬡ instead of a digit. As defaut the flash has a duration of 80 ms. If need you can enhance or reduce this time using the following procedure:

⬡＊⬡ ⬡#⬡ ⬡7⬡ *OK tone* ⬡#⬡ ⬡9⬡ {flash time in ms} *OK tone*

You can use values from ⬡0⬡⬡0⬡⬡1⬡ to ⬡1⬡⬡0⬡⬡0⬡. The value ⬡0⬡⬡0⬡⬡0⬡ will deactivate the flash function.

Example:

n   You want to enhance the flash time to 100 ms. Input:

⬡＊⬡ ⬡#⬡ ⬡7⬡ *OK tone* ⬡#⬡ ⬡9⬡⬡1⬡⬡0⬡⬡0⬡ *OK tone*

Busy tone detection

The Doortello Business doorphone can detect a busy tine to terminate the call and the end of a conversation. As default the device can detect three different busy tones: standard CO busy tone 500/500, standard PBX busy tone 200/400 and special busy tone 220/220. If needed, you can reprogram the tones. To reprogram a busy tone please follow this procedure:

⬡＊⬡ ⬡#⬡ ⬡8⬡ *OK tone* ⬡#⬡ ⬡1⬡ {make busy tone 1 in ms x 10} *OK tone* {break busy tone 1 in ms x 10} *OK tone* {No. of busy tone to be detected before hang up} *OK tone*

⬡＊⬡ ⬡#⬡ ⬡8⬡ *OK one* ⬡#⬡ ⬡2⬡ {make busy tone 2 in ms x 10} *OK tone* {break busy tone 2 in ms x 10} *OK tone* {No. of busy tone to be detected before hang up} *OK tone*

⬡＊⬡ ⬡#⬡ ⬡8⬡ *OK tone* ⬡#⬡ ⬡3⬡ {make busy tone 3 in ms x 10} *OK tone* {break busy tone 3 in ms x 10} *OK tone* {No. of busy tone to be detected before hang up} *OK tone*

For the make (tone duration) and the break (tone pause) values from ⬡0⬡⬡0⬡ to ⬡9⬡⬡9⬡ can be inserted. For the number of tone to detect before call termination

values from ⟨ 1 ⟩ to ⟨ 9 ⟩ can be programmed.

Example:

n You have to program te detection of a busy tone with a make of 200 ms (20 x 10) and a break of 200 ms, the call has to be terminated after the detection of min. three tones. Input

⟨ ✳ ⟩⟨ # ⟩⟨ 8 ⟩ *OK tone* ⟨ # ⟩⟨ 1 ⟩⟨ 2 ⟩⟨ 0 ⟩ *OK tone* ⟨ 2 ⟩⟨ 0 ⟩ *OK tone* ⟨ 3 ⟩ *OK tone*

Please note!
The number of tone to be detected before terminating the call should not have a too small value. If this is the case it might be that the device can detect normal speech as a busy tone and truncate the call. We suggest to not use values below 3.

Ring back tone detection

The Doortello Business can count the numbers of rings sent to the called party by detecting the ring back tone. As default the ring back tone detected is the standard 1000 make and 4000 break tone. If needed you can change this tone following this procedure:

⟨ ✳ ⟩⟨ # ⟩⟨ 8 ⟩ *OK tone* ⟨ # ⟩⟨ 4 ⟩ {make 1 in ms x 10} *OK tone* {break 1 in ms x 10} *OK tone* {make 2 in ms x 10} *OK tone* {break 2 in ms x 10} *OK tone*

The make values 1 and 2 (duration of the tone) and the break value 1 (pause of the tone) can be between ⟨ 0 ⟩⟨ 0 ⟩⟨ 0 ⟩ and ⟨ 2 ⟩⟨ 5 ⟩⟨ 5 ⟩, the break value 2 can be between ⟨ 0 ⟩⟨ 0 ⟩⟨ 0 ⟩ and ⟨ 9 ⟩⟨ 9 ⟩⟨ 9 ⟩.

Example:

n You want to detect a double ring back tone with a make of 250 ms (25 x 10), a break of 500 ms (50 x 10), a second make of 250 ms (20 x 10) and a second break of 4000 ms (400 x 10) duration. Input:

⟨ ✳ ⟩⟨ # ⟩⟨ 8 ⟩ *OK tone* ⟨ # ⟩⟨ 4 ⟩⟨ 0 ⟩⟨ 2 ⟩⟨ 5 ⟩ *OK tone* ⟨ 0 ⟩⟨ 5 ⟩⟨ 0 ⟩ *OK tone*
⟨ 0 ⟩⟨ 2 ⟩⟨ 5 ⟩ *OK tone* ⟨ 4 ⟩⟨ 0 ⟩⟨ 0 ⟩ *OK tone*

Please note!
If you want to program a ring back tone with a single make and break you have to use only the values make 1 and break 2. The values break 1 and make 2 have to have in this case a value of 000.

Number of rings

If the unit calls a telephone which doesn't answer within a programmed number of calls the connection will be automatically disconnected. As default the number of call before disconnection is 7. To change the number of calls before disconnection, please follow this procedure:

⧆ # 8 *OK tone* # 5 {number of calls} *OK tone*

You can use values from 0 2 to 9 9 .

Example:

n   You want that a extension should be called for 18 times before the call is automatically disconnected: Input:

⧆ # 8 *OK tone* # 5 1 8 *OK tone*

Please note!
The device will detect the ring back tones and not the real rings to the telephone. Some switches can send ring back tones which don't correspond exactly to the ring back tones sent.

Please note!
The number of call is also limited by the maximum connection time programmed. If you want to increase the ring time (i.e. to use a call diversion feature) you might also have to increase the maximum connection time programmed.

Tone tables

To make the tone programming easier the system has 30 predefined tone table which can beloaded on request. Loading the table all the specific busy and ring back tone are setted at once. A single programmation of each tone is then no more necessary. As default the table 01 is loaded. If you want to change the tone table please follow this procedure:

⧆ # 8 *OK tone* # 9 {table number} *OK tone*

Values from 0 1 to 3 0 can be used.

Example:

n   You want to load the tone table 11 (Panasonic PBX). Input:

⟨✳⟩⟨#⟩⟨8⟩ *OK tone* ⟨#⟩⟨9⟩⟨1⟩⟨1⟩ *OK tone*

Follwing table are available today in the system:

Tabelle ⟨0⟩⟨1⟩ *CO Germany, Italy, Norway, Mexico, Luxembourg*
> Busy tone 1: 50/50
> Busy tone 2: 25/25
> Busy tone 3: 22/22
> Ring back tone: 1000/4000

Tabelle ⟨0⟩⟨2⟩ *CO Sveden, Denmark, Iceland, Portugal*
> Busy tone 1: 25/25
> Busy tone 2: 50/50
> Busy tone 3: 20/40
> Ring back tone: 1000/5000

Tabelle ⟨0⟩⟨3⟩ *CO Austria, Finnland, Greece, Hungary*
> Busy tone 1: 30/30
> Busy tone 2: 20/20
> Busy tone 3: 50/50
> Ring back tone: 1000/5000

Tabelle ⟨0⟩⟨4⟩ *CO UK, Australia*
> Busy tone 1: 38/38
> Busy tone 2: 35/25
> Busy tone 3: 50/50
> Ring back tone: 400/200/400/2000

Tabelle ⟨0⟩⟨5⟩ *CO Spain, France*
> Busy tone 1: 20/20
> Busy tone 2: 50/50
> Busy tone 3: 00/00
> Ring back tone: 1500/3200

Tabelle ⟨0⟩⟨6⟩ *COSingapur*
> Busy tone 1: 75/75
> Busy tone 2: 50/50
> Busy tone 3: 20/40
> Ring back tone: 1000/4000

Tabelle ⟨0⟩⟨7⟩ *CO Belgium*
> Busy tone 1: 50/50
> Busy tone 2: 20/20
> Busy tone 3: 00/00

Ring back tone: 1000/3000

Tabelle ⬡0⬡8 *CO Cech Republik*

Busy tone 1: 33/33
Busy tone 2: 16/16
Busy tone 3: 00/00
Ring back tone: 1000/4000

Tabelle ⬡0⬡9 *CO USA, Canada, Ireland, Turkey*

Busy tone 1: 50/50
Busy tone 2: 25/25
Busy tone 3: 20/20
Ring back tone: 2000/4000

Tabelle ⬡1⬡0 *Agfeo PBX*

Busy tone 1: 20/40
Busy tone 2: 50/50
Busy tone 3: 00/00
Ring back tone: 400/2000

Tabelle ⬡1⬡1 *Panasonic PBX*

Busy tone 1: 20/20
Busy tone 2: 25/25
Busy tone 3: 10/10
Ring back tone: 500/300/500/2800

Tabelle ⬡1⬡2 *Siemens PBX*

Busy tone 1: 53/53
Busy tone 2: 16/44
Busy tone 3: 00/00
Ring back tone: 1000/4000

Tabelle ⬡1⬡3 *T-Com PBX*

Busy tone 1: 25/25
Busy tone 2: 50/50
Busy tone 3: 00/00
Ring back tone: 1000/4000

Tabelle ⬡1⬡4 *Avaya PBX*

Busy tone 1: 16/48
Busy tone 2: 50/50
Busy tone 3: 00/00
Ring back tone: 1000/4000

Tabelle ⬡1⬡5 *Auerswald PBX*

Busy tone 1: 23/23
Busy tone 2: 50/50
Busy tone 3: 00/00

Ring back tone:1000/4000

Tabelle ⬡1⬡6 *Gesko PBX*

Busy tone 1: 50/50
Busy tone 2: 00/00
Busy tone 3: 00/00
Ring back tone: 500/2000

Please note!
All other table are empty.

How to use

The following use description is based on the default functionality. The described procedure may change if the device has been reprogrammed.

Calling a phone using a chime button

Press the chime button at the doorstation. The red LED (is installed) will light up and the stored number will be dialled. When the called party answers the call the red LED will go off and the green LED (if installed) will light up. You can now talk to the called party.

Calling a phone using the dial pad

Press the button „handset" at the doorstation. The red LED will light up and a dial tone can be heard on the loudspeaker. Now you can dial the desired telephone number using the dial pad. The single DTMF digits can be heard on the loudspeaker. With each key pressed the green LED will acknowledge this with a short flash. If needed, i.e. if you are using the device connected to a GSM, DECT or

VoIP adapter, you can terminate the dialling by pressing the digit $\boxed{\#}$.

If you press a wrong digit you can reset the connection by pressing the "handset" button again. The connection will be now terminated a set up again with a new dial tone. When the called party will asnwer the call the red LED will go off a the green LED will light up. You can talk now with you correspondent.

Please note!
The input on the dial pad is time restricted. After the line seizure, and after each following button activation, you will have 5 s time to press the next button. After timeout the dial pad will be deactivated and you have to wait for the maximum line seizure timeout before making a new dial.

Please note!
The automatic connection termination and new seizure after a wrong dial will work only with devices with an EXTERNAL POWER SUPPLY. Units which are powered only using the telephone line can terminate the call and have to seize the line pressing the "handset" button again.

Calling a phone using a speed dial

Press the button „handset" at the doorstation. The red LED will light up and a dial tone can be heard on the loudspeaker. Now you can dial a speed dial code

between $\boxed{0}\boxed{0}$ and $\boxed{9}\boxed{9}$ using the dial pad. With each key pressed the green LED will acknowledge this with a short flash. If the code is correct a number will be dialled on the line. You will hear the DTMF digits. If the code is wrong the connection will be terminated.
If you press a wrong digit you can reset the connection by pressing the „handset" button again. The connection will now be terminated a set up again with a new

dial tone. When the called party will answer the call the red LED will go off a the green LED will light up. You can talk now with you correspondent.

Please note!
The input on the dial pad is time restricted. After the line seizure, and after each following button activation, you will have 5 s time to press the next button. After timeout the dial pad will be deactivated and you have to wait for the maximum line seizure timeout before making a new dial.

Please note!
The automatic connection termination and new seizure after a wrong dial will work only with devices with an EXTERNAL POWER SUPPLY. Units which are powered only using the telephone line can terminate the call and have to seize the line pressing the "handset" button again.

Access code

Press the button „key" at the doorstation. The red LED will light up. Now you can dial am access code using the dial pad. With each key pressed the green LED will acknowledge this with a short flash. The code input has to be terminated with the

$\boxed{\#}$ button. If the code is correct the red LED will go off, the green LED will light up and the specific driver contact will be activated for the duration of 5 s. If the code is wrong the connection will be terminated and seized again for a new input until a right code has been netered or the maximum line seizure timeout is reached.
If you press a wrong digit you can reset the connection by pressing the „key" button again. The connection will now be terminated a set up again.

Please note!
The input on the dial pad is time restricted. After the line seizure, and after each following button activation, you will have 5 s time to press the next button. After timeout the dial pad will be deactivated and you have to wait for the maximum line seizure timeout before making a new dial.

Please note!
The automatic connection termination and new seizure after a wrong dial will work only with devices with an EXTERNAL POWER SUPPLY. Units which are powered only using the telephone line can terminate the call and have to seize the line pressing the "handset" button again.

Direct activation of a driver contact

If needed it is possible to activate a driver contact by pressing directly a therefore programmed button (i.e. the „lamp" button on the dial pad or a chime button). In this case the associated driver contact will be activated for 5 s after pressing the button. The green LED (is installed) will light up for the duration of the activation.

Incoming call to the doorphone

The doorphone can be called any time. The call will be answered automatically. After the call answer you can speak to the visitor or start the programming mode using a password.

Please note!
The programming mode can be activated only within 5 s after call answer.

Please note!
The automatic call answer can be deactivated only using device with EXTERNAL POWER SUPPLY. In this cases an incoming call is indicated by a flashing red LED (if installed). The call can be answered by pressing one of the functional or chime buttons.

Call termination

The call will be terminated if:
- The called party will not answer the call within 7 rings;
- The called party is busy;
- The called party dial a driver contact activation code;
- The called party dial the digit ⟨ 3 ⟩ to terminate the call;
- The called party hangs up and a busy tone is recognized;
- The maximum line seizure timeout is reached.

Code digits for the phones
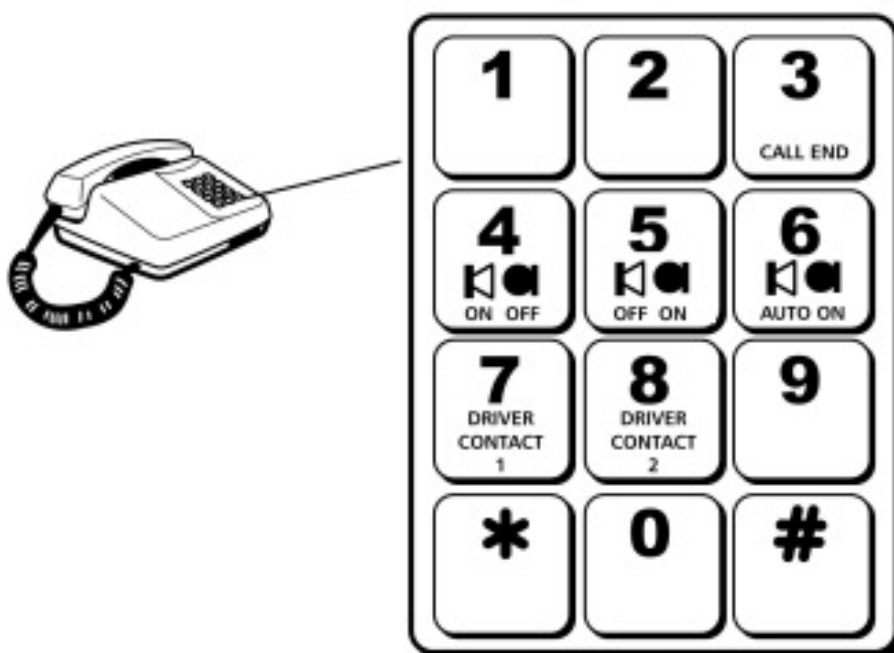
Optical indicators

The optical indicators (LED) are only available if a dial pad module has been installed. Using external encoding units it is also possible to connect external green and red LED.

Type of indication	Information
Both off	Standby
During intialisation (after power failure or frist installation)	
Red LED steady on	Line seizure and testing, measurement of noise level
Red and green LED steady on	Processor are synchronized
Green LED steady on	Data/default dat are loaded in working memory
During programming modus	
Red LED steady on	Programming modus activated, password OK
Red LED steady on, green LED is flashing shortly	DTMF tone recongnized
Red and green LED steady on	Data are stored on the flash RAM
After chime button activation	
Red LED steady on	Line is seized, number will be dialed
Red LED off, green LED steady on	Call has been answered, microphone is on
After dial or speed dial button activation	
Red LED steady on	Line is seized, ready to dial
Red LED steady on, green LED is flashing shortly	Dial digit has been pressed, digit will be dialed
Red LED off, green LED steady on	Call has been answered, microphone is on
After access code input/direct driver contatct activation	
Green LED steady on	Driver contact is activated

Trouble shooting

The door phone can not be programmed
1. Check if you are using the right password.
2. Check if the automatic answer feature was deactivated. In this case you have to answer the call manually at the door phone.
3. The DTMF tones your system is sending may have a too high level. Try to program the device using an incoming external call.

The door phone does not dial
1. Check if a telephone line is connected to the device.
2. Check if the the telephone line has a open circuit voltage between 20 and 60 V dc.
3. May be that the initialisation procedure was not correctly completed. Please call again the door phone, wait for a busy tone and try then again.
4. Check if the chime button you are using is programmed and has the correct address.

After connecting the telephone line the device will size the line all the time
1. Disconnect the DB bus connector on the unit, may be that one of the chime buttons has a short circuit.
2. Check if the the telephone line has a open circuit voltage between 20 and 60 V dc.
3. Disconnect and reconnect the telephone line and the external power supply if installed. Make a new initialisation of the device.

After a telephone connection a loud feedback tone is heard at the door phone
1. Check volume of loudspeaker and microphone.
2. Check if you are using the full or half duplex feature. If you have a feedback you have to use the half duplex functionality.
3. If you have a behind panel installation check that the device is correctly installed. The microphone and loudspeaker have to be in contact with the front plate.
4. Check that the microphone is in aligned with a hole to the outside. If necessary you can extract the microphone from the housing and install it otherwise.

The door opener will not be activated
1. Check if the door opener has a adequate power supply. The contact in the door phone is a dry contact and doesn't have power to supply the door opener. Try to short circuit the screw contacts to see if the door opener works correctly.
2. Check if the driver contact is supplied with min. 6 Vac/dc. If the voltage is below this value (i.e. TTL driver) the driver contact doesn't work. In this case you have to use an external relay or the DB RU 1 unit.
3. Check is the driver contact is correctly programmed.
4. The driver contact can be activated only after a call answer and speech detection (green LED and microphone must be on).

The loudspeaker has a „hopping" volume

1. The volume of the loudspeaker is automatically regulated with the line current. If the loudspeaker volume is regulated too high, the telephone line might not have enough power to supply the device at high volume. To avoid this reduce the volume or try to power the device with an external power supply.

Technical support

Use the telephone number or e-Mail address on the last page of this manual for more information.

Technical data

Power supply:	The telephone line should not have a open circuit voltage below 20 Vdc. If it is lower an external power supply unit has to be used.
External power supply:	8 to 12 Vdc (MAXIMUM), max. 400 mA
Power consumption on telephone line:	ca. 15 μA (standby)
	18-60 mA (nominal)
Optical indicators:	One green and one red LED (only using key pad module)
Speakerphone:	Speech driven half-duplex speakerphone, full-duplex speakerphone, manual switching speakerphone
Dial:	DTMF
DTMF tone detection:	min. 50 ms duration
Busy tone detection:	350 - 480 Hz fully programmable
Ring back tone detection:	350 - 480 Hz fuly programmable
Line impedance:	600 Ohm or Zr selectable
Programming:	using a phone and DTMF tones
Call answer:	automatic or manual (programmable)
Ring voltage detection:	24 to 90 Vac (with or without dc voltage superimposion), 25 to 50 Hz
Integrated driver contact power:	40 V ac/dc, 2 A max.
Casing:	ABS case and 2 mm 316L (V2A) stainless steel panel (ES version only)
Protection degree:	IP 55 (ES version)
Dimensions HxLxD:	94 x 86 x 22 mm (BG)
	100 x 92 x 25 mm (ES)
Weight:	100g (BG)
	350g (ES)
Working temperature:	-20° bis +50°C (with external power supply)
Humidity:	30 to 90% relative humidity without condensing
Security:	EN 60950, 2006/95/CE
EMC:	EN 55022:2006; EN 61000-6-1:2002, 2004/108/CEE
Telecom:	ETSI EN 301 437; TBR 21
Approvals:	R&TTE, CE
Further norms compliance:	WEEE, RoHS

Programming codes overview

Following an overview of all the programming code used to configure the Doortello Business unit. In the right column (DEFAULT) you can read the information about the factory default data programmed for the related code. (*T:* you will hear a tone).

#	Programming code	Function	DEFAULT
1.	✻ # 0 *T*<PW>*T*	Programming mode activation	1234
2.	✻ # 9 *T* # 9 <PW>*T*	Factory default data load	1234
3.	✻ # 1 *T*<tel.no./func./feat.> ✻ ✻ <botton>*T*	Telephon no., functions and features of the buttons	see list
4.	✻ # 9 *T* # 1 <botton>*T*	Delete telephon no., functions and features	-
5.	✻ # 5 *T*<tel.no.> ✻ ✻ <code>*T*	Speed dial no.	-
6.	✻ # 9 *T* # 5 <code>*T*	Delete speed.dial no.	-
7.	✻ # 3 *T* # 1 <1 on,0 off>*T*	Automatic call answer	1
8.	✻ # 3 *T* # 2 <value>*T*	Loudspeaker status at line size	1
9.	✻ # 3 *T* # 3 <value>*T*	Micorphone status at line size	3
10.	✻ # 3 *T* # 5 <1 on,0 off>*T*	Automatic disconnection after door opening	1
11.	✻ # 3 *T* # 6 <1 HD,0 FD>*T*	Speakerphone modus	1
12.	✻ # 3 *T* # 7 <value>*T*	Max. digits input form key pad	32
13.	✻ # 4 *T* # 1 <PW> ✻ ✻ <PW>*T*	Password programming	1234
14.	✻ # 4 *T* # 2 <code no.> ✻ ✻ <code><contact>*T*	Access code programming	-
15.	✻ # 4 *T* # 2 <code no.> ✻ ✻ 0 <contact>*T*	Delete access code	-

#	Programming code	Function	DEFAULT
16.	✳ # 4 T # 3 \<code\> ✳ ✳ \<contact\>T	Contacts activation codes	7, 8
17.	✳ # 7 T # 1 \<time\>T	Max. line seizure time	60 s
18.	✳ # 7 T # 2 \<time\>T	Dial pause time	2 s
19.	✳ # 7 T # 3 \<time\>T	Interdigit time	150 ms
20.	✳ # 7 T # 4 \<time\> ✳ ✳ \<contact\>T	Contacts activation time	5 s
21.	✳ # 7 T # 5 \<time\>T	Keyad activation time	5 s
22.	✳ # 7 T # 6 \<time\>T	Keypad blocking time	-
23.	✳ # 7 T # 7 \<time\>T	Blocking time increase	-
24.	✳ # 7 T # 8 \<value\> ✳ ✳ \<call forward. 0 off, 1 on\>T	Max. no. of attempts	-
25.	✳ # 7 T # 9 \<time\>T	Flash signal time	80 ms
26.	✳ # 8 T # \<tone 1,2,3\> \<make\>T\<break\>T\<count\>T	Busy tone detection	see descr.
27.	✳ # 8 T # 4 \<make1\>T\<break1\>T\<make2\>T \<break2\>T	Ring back tone detection	see descr.
28.	✳ # 8 T # 5 \<count\>T	Max. no.of calls	7
29.	✳ # 8 T # 9 \<table\>T	Tone table load	01

Overview of programmed values

Key	Telephon no./function/feature																		Default
001																			-
002																			-
003																			-
004																			-
005																			-
006																			-
007																			-
008																			-
009																			-
010																			-
011																			-
012																			-
013																			-
014																			-
015																			-
016																			-
017																			-
018																			-
019																			-
020																			-
021																			-
022																			-
023																			-
024																			-
025																			-
026																			-
027																			-
028																			-
029																			-
030																			-
031																			-

Key	Telephon no./function/feature	Default
032		-
033		-
034		-
035		-
036		-
037		-
038		-
039		-
040		-
041		-
042		-
043		-
044		-
045		-
046		-
047		-
048		-
049		-
050		-
051		-
052		-
053		-
054		-
055		-
056		-
057		-
058		-
059		-
060		-
061		-
062		-

Key	Telephon no./function/feature	Default
063		-
064		-
065		-
066		-
067		-
068		-
069		-
070		-
071		-
072		-
073		-
074		-
075		-
076		-
077		-
078		-
079		-
080		-
081		-
082		-
083		-
084		-
085		-
086		-
087		-
088		-
089		-
090		-
091		-
092		-
093		-

Key	Telephon no./function/feature																Default
094																	-
095																	-
096																	-
097																	-
098																	-
099																	-
100																	-
101																	-
102																	-
103																	-
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116																	-
117																	-
118																	-
119																	-
120																	-
121																	-
122																	-
123																	-
124																	-

Key	Telephon no./function/feature																				Default
125																					-
126																					-
127																					-
128																					##6#1
129																					##6#3
130																					-
131																					-

Code	Speed dial no.																				Default
00																					-
01																					-
02																					-
03																					-
04																					-
05																					-
06																					-
07																					-
08																					-
09																					-
10																					-
11																					-
12																					-
13																					-
14																					-
15																					-
16																					-
17																					-
18																					-
19																					-
20																					-

Code	Speed dial no.																		Default
21																			-
22																			-
23																			-
24																			-
25																			-
26																			-
27																			-
28																			-
29																			-
30																			-
31																			-
32																			-
33																			-
34																			-
35																			-
36																			-
37																			-
38																			-
39																			-
40																			-
41																			-
42																			-
43																			-
44																			-
45																			-
46																			-
47																			-
48																			-
49																			-
50																			-
51																			-

Code	Speed dial no.	Default
52		-
53		-
54		-
55		-
56		-
57		-
58		-
59		-
60		-
61		-
62		-
63		-
64		-
65		-
66		-
67		-
68		-
69		-
70		-
71		-
72		-
73		-
74		-
75		-
76		-
77		-
78		-
79		-
80		-
81		-
82		-

Code	Speed dial no.	Default
83		-
84		-
85		-
86		-
87		-
88		-
89		-
90		-
91		-
92		-
93		-
94		-
95		-
96		-
97		-
98		-
99		-

Code No.	Access code	Driver contact	Default
1		01	0
2		01	0
3		01	0
4		01	0
1		02	0
2		02	0
3		02	0
4		02	0

Options

The following options care availabel for the Doortello Business Doophone:

Expansion modules

20-2000-0000	DB 00 Empty speakerphone grid module
20-2000-0010	DB 10 Spare module
20-2000-0011	DB 11 chime button module with 1 button, DB bus
20-2000-0012	DB 12 chime button module with 2 buttons, DB bus
20-2000-0013	DB 13 chime button module with 3 buttons, DB bus
20-2000-0014	DB 14 chime button module with 4 buttons, DB bus
20-2000-0015	DB 15 DB bus encoding unit for 4 chime buttons
20-2000-0116	DB 16 emergency call button module, blue ring illumination, DB bus
20-2000-0216	DB 16 emergency call button module, red ring illumination, DB bus
20-2000-0316	DB 16 emergency call button module, green ring illumination, DB bus
20-2000-0416	DB 16 emergency call button module, yellow ring illumination, DB bus
20-2000-0117	DB 17 emergency call button module, blue ring illumination, glass cover, DB bus
20-2000-0217	DB 17 emergency call button module, red ring illumination, glass cover, DB bus
20-2000-0317	DB 17 emergency call button module, green ring illumination, glass cover, DB bus
20-2000-0417	DB 17 emergency call button module, yellow ring illumination, glass cover, DB bus
20-2000-0018	DB 18 empty microphone module
20-2000-0020	DB 20 dial pad module 12 key + 4 functional button, DB bus
20-2000-0021	DB 21 information modul with blue illumination, DB Bus
20-2000-0022	DB 22 empty key lock module
20-2000-0122	DB 22/1 key lock module with one driver contact
20-2000-0023	DB 23 empty information module
20-2000-0024	DB 24 access control transponder receiver unit with 5 cards
20-6930-1800	Set with 10 slaves card for DB 24
20-6930-1830	Set with 10 key holder transponder for DB 24
20-2000-0030	DB 30 b/w camera module coax 1 Vss 75 Ohm output
20-2000-0031	DB 31 b/w camera module 2 wire symmetrical output
20-2000-0032	DB 32 colour camera module coax 1 Vss 75 Ohm output
20-2000-0033	DB 33 colour camera module IP MPEG-4 output

Mounting frame, boxes and pedestals

20-1005-1001	MXXTE1 flush mounting case with anthrazyt frame for 1 module
20-1005-1011	MXXTE1 flush mounting case with grey frame for 1 module
20-1005-1002	MXXTE2 flush mounting case with anthrazyt frame for 2 modules
20-1005-1012	MXXTE2 flush mounting case with grey frame for 2 modules
20-1005-1003	MXXTE3 flush mounting case with anthrazyt frame for 3 modules
20-1005-1013	MXXTE3 flush mounting case with grey frame for 3 modules
20-1005-1004	MXXTE4 flush mounting case with anthrazyt frame for 4 modules
20-1005-1014	MXXTE4 flush mounting case with grey frame for 4 modules
20-1005-2001	MXC001 cover frame aluminum for 1 module
20-1005-2002	MXC002 cover frame aluminum for 2 modules
20-1005-2003	MXC003 cover frame aluminum for 3 modules
20-1005-2004	MXC004 cover frame aluminum for 4 modules
20-1005-2022	MXC202 cover frame aluminum for 4 modules (2+2)
20-1005-2023	MXC203 cover frame aluminum for 6 modules (3+3)
20-1005-2024	MXC204 cover frame aluminum for 8 modules (4+4)
20-1005-2033	MXC303 cover frame aluminum for 9 modules (3+3+3)
20-1005-2043	MXC303 cover frame aluminum for 12 modules (3+3+3+3)
20-1005-5001	MXV001 rain shelter stainless steel for 1 module
20-1005-5002	MXV002 rain shelter stainless steel for 2 modules

20-1005-5003	MXV003 rain shelter stainless steel for 3 modules
20-1005-5004	MXV004 rain shelter stainless steel for 4 modules
20-1005-5022	MXV202 rain shelter stainless steel for 4 modules (2+2)
20-1005-5023	MXV203 rain shelter stainless steel for 6 modules (3+3)
20-1005-5024	MXV204 rain shelter stainless steel for 8 modules (4+4)
20-1005-5033	MXV303 rain shelter stainless steel for 9 modules (3+3+3)
20-1005-5043	MXV403 rain shelter stainless steel for 12 modules (3+3+3+3)
20-1005-3001	MXP001 wall mounting case with rain shelter, stainless steel, for 1 MXXTE1
20-1005-3002	MXP002 wall mounting case with rain shelter, stainless steel, for 1 MXXTE2
20-1005-3003	MXP003 wall mounting case with rain shelter, stainless steel, for 1 MXXTE3
20-1005-3004	MXP004 wall mounting case with rain shelter, stainless steel, for 1 MXXTE4
20-1005-3022	MXP202 wall mounting case with rain shelter, stainless steel, for 2 MXXTE2
20-1005-3023	MXP203 wall mounting case with rain shelter, stainless steel, for 2 MXXTE3
20-1005-3024	MXP204 wall mounting case with rain shelter, stainless steel, for 2 MXXTE4
20-1005-3033	MXP303 wall mounting case with rain shelter, stainless steel, for 3 MXXTE3
20-1005-3043	MXP403 wall mounting case with rain shelter, stainless steel, for 4 MXXTE3
20-2000-0710	DB 710 flat wall mounting case, anthrazyt, for 1 module
20-2000-0711	DB 711 flat wall mounting case, grey, for 1 module
20-2000-0720	DB 720 flat wall mounting case, anthrazyt, for 2 modules
20-2000-0721	DB 721 flat wall mounting case, grey, for 2 modules
20-2000-0730	DB 730 flat wall mounting case, anthrazyt, for 3 modules
20-2000-0731	DB 731 flat wall mounting case, grey, for 3 modules
20-2000-0740	DB 740 flat wall mounting case, anthrazyt, for 4 modules
20-2000-0741	DB 741 flat wall mounting case, grey, for 4 modules
20-2000-0810	DB 810 adapter fram for deep modules, anthrazyt, for 1 module
20-2000-0811	DB 811 adapter fram for deep modules, grey, for 1 module
20-2000-0820	DB 820 adapter fram for deep modules, anthrazyt, for 2 modules
20-2000-0821	DB 821 adapter fram for deep modules, grey, for 2 modules
20-2000-0830	DB 830 adapter fram for deep modules, anthrazyt, for 3 modules
20-2000-0831	DB 831 adapter fram for deep modules, grey, for 3 modules
20-2000-0840	DB 840 adapter fram for deep modules, anthrazyt, for 4 modules
20-2000-0841	DB 841 adapter fram for deep modules, grey, for 4 modules
20-2000-5001	DB 5001 adapter frame white for foreign installations
20-2000-5002	DB 5002 adapter frame grey for foreign installations
20-2000-5003	DB 5003 adapter frame black for foreign installations
20-2000-5130	DB 5130 pedastal flat 1170 mm hight, antharzyt, for 1 module
20-2000-5131	DB 5131 pedastal flat 1170 mm hight, grey, for 1 module
20-2000-5132	DB 5132 pedastal flat 1170 mm hight, steel similar surface treatment, for 1 module
20-2000-5230	DB 5230 pedastal flat 1170 mm hight, antharzyt, for 2 modules
20-2000-5231	DB 5231 pedastal flat 1170 mm hight, grey, for 2 modules
20-2000-5232	DB 5232 pedastal flat 1170 mm hight, steel similar surface treatment, for 2 modules
20-2000-5330	DB 5330 pedastal flat 1170 mm hight, antharzyt, for 3 modules
20-2000-5331	DB 5331 pedastal flat 1170 mm hight, grey, for 3 modules
20-2000-5332	DB 5332 pedastal flat 1170 mm hight, steel similar surface treatment, for 3 modules
20-2000-5150	DB 5150 pedastal flat 1500 mm hight, antharzyt, for 1 module
20-2000-5151	DB 5151 pedastal flat 1500 mm hight, grey, for 1 module
20-2000-5152	DB 5152 pedastal flat 1500 mm hight, steel similar surface treatment, for 1 module
20-2000-5250	DB 5250 pedastal flat 1500 mm hight, antharzyt, for 2 modules
20-2000-5251	DB 5251 pedastal flat 1500 mm hight, grey, for 2 modules
20-2000-5252	DB 5252 pedastal flat 1500 mm hight, steel similar surface treatment, for 2 modules
20-2000-5350	DB 5350 pedastal flat 1500 mm hight, antharzyt, for 3 modules
20-2000-5351	DB 5351 pedastal flat 1500 mm hight, grey, for 3 modules
20-2000-5352	DB 5352 pedastal flat 1500 mm hight, steel similar surface treatment, for 3 modules
20-2000-5450	DB 5450 pedastal flat 1500 mm hight, antharzyt, for 4 modules

20-2000-5451   DB 5451 pedastal flat 1500 mm hight, grey, for 4 modules
20-2000-5452   DB 5452 pedastal flat 1500 mm hight, steel similar surface treatment, for 4 modules
20-2000-5270   DB 5270 pedastal flat 1700 mm hight, antharzyt, for 2 modules
20-2000-5271   DB 5271 pedastal flat 1700 mm hight, grey, for 2 modules
20-2000-5272   DB 5272 pedastal flat 1700 mm hight, steel similar surface treatment, for 2 modules
20-2000-5370   DB 5370 pedastal flat 1700 mm hight, antharzyt, for 3 modules
20-2000-5371   DB 5371 pedastal flat 1700 mm hight, grey, for 3 modules
20-2000-5372   DB 5372 pedastal flat 1700 mm hight, steel similar surface treatment, for 3 modules
20-2000-5470   DB 5470 pedastal flat 1700 mm hight, antharzyt, for 4 modules
20-2000-5471   DB 5471 pedastal flat 1700 mm hight, grey, for 4 modules
20-2000-5472   DB 5472 pedastal flat 1700 mm hight, steel similar surface treatment, for 4 modules

External device and PSU

20-6913-0100   PRS 210 VDE transformator 12 Vac 15 VA
20-6913-1100   PRS 231 VDE power supply unit 12 Vdc, 12 Vac, 8 Vdc 18 VA
20-6922-0200   1281 VDE power supply unit 12 Vac, 21 Vdc 48 VA (for video)
20-6923-2800   CV 01 coax/2 wire video converter

Spare parts

21-2000-0150   Paper label for information module DB 21
21-2000-0260   Transparent cover for information module DB 21
21-2000-0340   Printed cover for transponder access controller DB 24
21-1005-0500   Bit torx screws with tool for mounting frame
21-2001-0014   Encoding PCB with bottons for DB 11 - DB 14
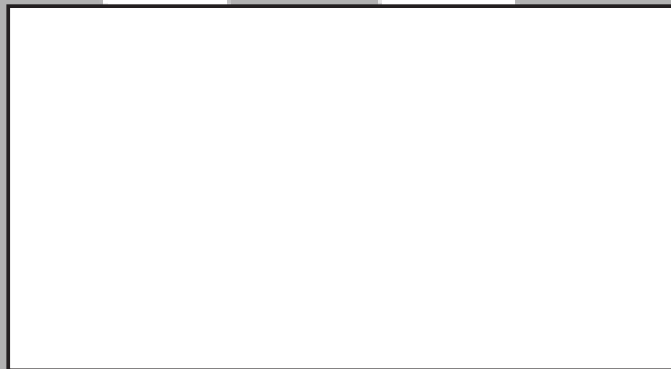21-2001-0020   Encoding PCB with bottons for DB 20

This symbol indicates that this electric device has to be collected separately and not disposed with the normal home waste. The european union has arranged a collect and recycling system where the manufacturer are responsible for the disposal of this equipment. This devices has been manufactured using high-quality and recycleable materials and components. The components used inside the electrical and electronical items may harm, in case of a wrong disposal, the enviroment and the healthy. Please do not dispose this device in your home waste. If you are the owner bring the not more used device at the hazardous waste collecting point nearest to you, or to your dealer where you buy the new device.
- If you are using the device as a professional user please follow the indications of the manufactoring company.
- If the device is part of a leasing contract or you have hold it on stock, please follow the indications of your distributor.
Please help us to keep our enviroment healthy! Thank you.

Your dealer:

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